

SUPPLEMENTAL ALLOWANCE

Information Disclosure Statement

1. The information disclosure statements (IDS) submitted on 14 December 2007 and 15 February 2008 was filed after the mailing date of the Notice of Allowance on 19 November 2007. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Response to Amendment

2. The amendment filed 30 July 2007 has been accepted and entered.

Examiner's Amendment

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Paul Fournier on 08 November 2007.

The application has been amended as follows:

Claim 17 is cancelled.

Allowable Subject Matter

4. Claims 1-3, 5-7, and 11-16 are allowed.
5. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the prior art of record does not disclose or reasonably suggest, along with the other claimed limitations, a solid-state imaging apparatus comprising:

namely, an electroconductive member provided so as to cover at least the pn junction portions exposed on the one side on the semiconductor substrate; and the specific layering and positioning of the remaining imaging apparatus elements. While the prior art discloses the use of all the claimed limitations individually or in some combination, the exact layout as claimed in conjunction with the specific electroconductive member is not taught or reasonably suggested.

Prior art, such as Tohyama (US 5,537,146 A) disclose the claimed invention except for the limitation of “an electroconductive member provided so as to cover at least the pn junction portions exposed on the one side on the semiconductor substrate”.

Tohyama discloses an array of pn junction photodiodes being covered by a grounded electroconductive member (Tohyama's feature is named a “metal mirror”) that protects the pn junctions from leakage current supplied by wires controlling the switches of the switch groups. Tohyama specifically discloses that “a metal mirror may preferably be formed on an active image sensor area between the metal signal lines...” (C:2 L:30-42). Tohyama's electroconductive member is found only between the metal signal lines and the image sensor. The instant application requires further coverage of the electroconductive member to extend to all exposed areas of the image sensor.

Regarding claims 2-3 and 11-13, the balance of claims is found allowable due to their dependence upon an already allowed claim and lacking any technical errors.

Regarding claim 5, the prior art of record does not disclose or reasonably suggest, along with the other claimed limitations, a solid-state imaging apparatus comprising: namely, an electroconductive member provided so as to cover at least the pn junction

portions exposed on the one side on the semiconductor substrate; and the specific layering and positioning of the remaining imaging apparatus elements. While the prior art discloses the use of all the claimed limitations individually or in some combination, the exact layout as claimed in conjunction with the specific electroconductive member is not taught or reasonably suggested.

Prior art, such as Tohyama (US 5,537,146 A) disclose the claimed invention except for the limitation of “an electroconductive member provided so as to cover at least the pn junction portions exposed on the one side on the semiconductor substrate”. Tohyama discloses an array of pn junction photodiodes being covered by a grounded electroconductive member (Tohyama's feature is named a “metal mirror”) that protects the pn junctions from leakage current supplied by wires controlling the switches of the switch groups. Tohyama specifically discloses that “a metal mirror may preferably be formed on an active image sensor area between the metal signal lines...” (C:2 L:30-42). Tohyama's electroconductive member is found only between the metal signal lines and the image sensor. The instant application requires further coverage of the electroconductive member to extend to all exposed areas of the image sensor.

Regarding claims 6-7 and 14-16, the balance of claims is found allowable due to their dependence upon an already allowed claim and lacking any technical errors.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Response to Arguments

6. Applicant's arguments, see the pages 8-9 of the amendment, filed 30 July 2007, with respect to claims 1-3, 5-7, and 11-16 have been fully considered and are persuasive. The rejection of these claims has been withdrawn.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 5,537,146 A – Tohyama discloses the claimed invention excepted for the physical positioning of the electroconductive member as claimed in the instant application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Baker whose telephone number is (571) 272-6003. The examiner can normally be reached on MTWRF 9:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DSB

/David P. Porta/

Supervisory Patent Examiner, Art Unit 2884